

## Point of Assessment

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### Comments

L-0044/061

The response indicates the points of analyses used in the comparative assessment were “located along lines approximately 1 km (0.6 mi) down gradient from aggregate HSW disposal areas within the 200 East, 200 West, and the ERDF areas and near the Columbia River located down gradient from all disposal site areas (Figure G.1).” The response also explains why these points of analyses were selected. Specifically, the response explains: “Points of analysis approximately 1 km down gradient from the overall waste disposal facilities in each area are not meant to represent points of compliance but rather common locations to facilitate comparison of impacts from broad waste management selections and locations defined for each alternative.”

According to Figure G.1, the various points of analysis apparently do not represent contaminant convergence points. The explanation is not understood. Contrary to the explanation, use of the various points of compliance would facilitate comparison of greatest impacts from each waste management unit. Use of points of analyses located along lines approximately 1 km down gradient from waste management units results in dilution of impact concentrations. This approach is not conservative.

### Response

The maximum point of impact from multiple and widely dispersed sources may not necessarily be directly underneath the Low Level Burial Grounds or at the Low Level Burial Ground boundary. To model the groundwater impacts from multiple and widely dispersed disposal units over long periods of time, a 1-km point of analysis location was deemed to be more appropriate and representative than a regulatory point of compliance well location, for purposes of NEPA analysis. The point of analysis approach is considered technically appropriate for a NEPA evaluation of groundwater impacts over the long-term (10,000 years) time period analyzed. The 1-km point of analysis is not intended to represent the proposed locations for actual monitoring wells that would be used during the operational and closure time period. Groundwater impacts at the facility boundary (about 100 meters) have been added to the impacts identified for the preferred alternative and are discussed qualitatively for the other alternatives. A discussion of the differences between the 1-km point of analysis and the disposal facility boundary is provided in Volume I Section 5.3 and Volume II Appendix G.

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### Comments

E-0012/003

[Why] are groundwater monitors MILES AWAY FROM the burial vault?

E-0019/005, L-0026/005

The draft HSW-EIS has failed to provide calculated groundwater concentrations at the regulatory point of compliance (disposal unit boundary or 100 meters down gradient). The draft HSW-EIS provides calculated groundwater concentrations at 1,000 meters down gradient and in the Columbia River. The 1,000 meter and Columbia River concentrations are significantly lower than the regulatory point of compliance values would be.

E-0043/017, EM-0217/017, EM-0218/017, L-0056/017, LM-0017/017, LM-0018/017

The EIS should disclose impacts to groundwater and human health at the point of compliance for waste management units. Lines of analysis at 1 km do not provide adequate analysis. DOE should analyze the potential impacts at the edge of, and under, the disposal sites in the vadose zone and groundwater, as well as potential worst case impacts from overlapping releases.

E-0047/024

Point of compliance for groundwater is directly under waste site, EIS can not use any arbitrary point away from waste site and fails to assess and disclose the short and long-term impacts to groundwater directly under

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the waste site which is the legal point of compliance.

E-0050/006

The EIS fails to assess and disclose the short and long-term impacts to groundwater directly under the waste site, which is the legal point of compliance. Instead, the EIS looks at a point 1 km down-gradient, which is a change in policy beyond the purview of an environmental impact statement.

E-0055/015

Washington Ecology and EPA, for instance, have concurred with the analysis that this revised draft fails to provide the legally required minimum analysis of the impacts of proposed landfill sites, size, disposal quantities and design. Hundreds of commenters, the Hanford Advisory Board, Tribes, Heart of America Northwest, and the States of Oregon and Washington and U.S. EPA all urged USDOE to clearly disclose and consider the impact of the proposed landfill alternatives on groundwater meeting the standards in Sec. 3004 and 3005 of RCRA, Chapter 173-303 WAC, NEPA, MOTCA, SEPA, etc... requiring that the impact on ground water be analyzed under the facility and at the proposed facility boundaries. Without analysis of the impacts on ground water at the current and proposed new facilities' boundaries it is impossible to ascertain what the impacts are[.]

F-0024/006

Rapidly improve monitoring on the groundwater problems in the burial grounds not a kilometer away.

L-0012/006

One of these proposals which is found in and denied in the HSWEIS is moving the point at which one measures risk away from the source to a further point so as [to] lower the standards, thus minimizing the risks. This kind of action constitutes a change in policy, which is beyond the purview of an environmental impact statement.

L-0017/006

The monitoring point to assess groundwater contamination from the burial grounds is supposed to be at the waste site boundary. That is the "point of compliance" according to the USEPA. However, USDOE is currently using a monitoring point one kilometer away, which therefore is an inaccurate and misleading measure of groundwater contamination. We recommend installing new wells, as legally required, at the point of compliance.

L-0039/014

Compliance and analysis points in this draft EIS are unacceptable. The HSW EIS analyzes the potential impacts to groundwater at a line one kilometer away from the proposed disposal sites. This is inadequate and DOE should analyze the potential impacts at the edge of, and under, the disposal sites in the vadose zone and groundwater.

L-0041/011

Analyses of impacts from the spread of contaminants were conducted at a distance from the waste sites. This action gives the appearance of reduced risk and is contradictory to regulatory guidance and statutes. Therefore, the analyses of risk the HSW-EIS is likely inaccurate.

L-0041/051

Analyzing groundwater impacts at a distance (1 kilometer from waste site boundary) tends to statistically minimize risk. The point of analysis should be placed at the boundary of the waste site.

L-0044/118

As we have commented previously, the use of lines of assessment to assess groundwater quality impacts does not meet the Resource Conservation and Recovery Act (RCRA) regulatory requirement for monitoring groundwater at the point of compliance. For purposes of facility siting and impact analysis, the point of compliance should be at the waste management unit boundary. Use of various points of compliance would

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facilitate comparison of greatest impacts from each waste management unit. Use of lines of analyses, rather than regulatory points of compliance, results in dilution of contaminant concentrations. This approach is neither conservative nor yields a worse case scenario, as required by SEPA when inadequate information is available.

E-0049/005, L-0048/005

The point at which the U.S. Department of Energy (DOE) analyzed risk due to disposal sites was too far away to sufficiently and fully determine release impacts. The Board finds DOE's explanation that these are lines of analyses, not compliance points, to be inadequate. Monitoring points must be established at the disposal site boundaries.

L-0049/003

First, the revised draft HSW EIS describes impacts to groundwater on kilometer downgradient of the correct point of compliance, the facility boundary. The revised draft HSW EIS states that these points are not meant to represent points of compliance but rather common locations to facilitate a more complete comparison of long term impacts from various waste management configurations and locations defined for each alternative. We commend DOE for including information that assists the decisionmaker and reader in comparing alternatives, however, information indicating compliance with environmental standards is also extremely relevant and necessary for the decisionmaker to make an informed decision when selecting between alternatives. The Council of Environmental Quality (CEQ) National Environmental Policy Act (NEPA) Implementation Regulations at 40 CFR 1502.2 states that an EIS shall state how alternatives considered in it and decisions based on it will or will not achieve the requirements of environmental laws and policies. The final HSW EIS should predict groundwater impacts at the point of compliance (i.e. the facility boundary) and state if action alternatives meet applicable groundwater standards.

TLG-0004/003

And certainly from what I've read in the summary, there doesn't seem to be even a proposal under consideration that would adequately address the water quality impacts from what they're proposing to do with monitoring stations located a mile away from the sites at which they plan disposal. I'm hard pressed to see how that can give an accurate picture of what's actually leaching through the ground and into the environment. Because as we know, much of this waste has a lifespan that extends many, even hundreds, of generations from today.

TRI-0001/017

Lastly, I would like to address the issue of the groundwater. Point of compliance. The Department of Energy, this is from the EIS, and I will have to show you with a pen, has analyzed only the line of analysis for groundwater impacts right here, right here, and just north up here. Unfortunately, what this means is that significant groundwater impacts are not being examined and we cannot make any determination about the adequacy of measures for any of the proposed facilities. As Dave Einan from EPA noted, you have to consider what are the impacts to groundwater at the edge of the facility. That's what the law requires. It is how we measure the impact in terms of an exposure scenario. And it is unacceptable to say we are going to measure it a kilometer away. ... By going a kilometer away, what we are in effect doing is neither actually finding out the maximum concentration at the edge of the boundary, nor at the point in the channel where you have the cumulative impact of other waste sites. Conveniently enough, when you look at this, what you get is a line of analysis that neither measures the total cumulative impact from all waste sites, nor the impact at the boundary of the specific waste unit. It is chosen for no reason that can be ascertained, and therefore it leaves us to think that it is chosen for exactly this point, that it is not at the point of maximum concentration from all waste sites to measure the cumulative impact, and it is not at the point where you get the highest impact from a particular waste site either. It needs to be redone. It is not that you shouldn't drop that line of analysis. It's just that you need to do analysis at the boundary of each facility, including the existing facilities, and you need to do it at the point where the pathways converge from different facilities.

TSE-0012/002

The groundwater contamination levels must be stated at the boundary levels of the containers, the sites.

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### Response

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Groundwater monitoring is conducted according to TPA requirements, the Hanford Dangerous Waste Management permit, and DOE Orders. Groundwater monitoring will be expanded as necessary according to agreements between DOE and regulatory agencies to support future waste management operations.

In 2001 alone, samples were collected from 735 groundwater monitoring wells to determine the distribution and movement of existing radiological and chemical constituents in Hanford Site groundwater, and to identify and characterize potential and emerging groundwater contamination problems. Samples were analyzed for about 40 different radionuclide constituents and about 290 different chemical constituents. Airborne radionuclide samples were collected at 45 continuously operating samplers: 24 on the Hanford Site, 11 near the site perimeter, 8 in nearby communities, and 2 in distant communities. Nine stations were community-operated environmental surveillance stations managed and operated by local school teachers as part of an ongoing DOE-sponsored program to promote public awareness of Hanford Site environmental monitoring programs.

Volume I Section 6 identifies the major statutes, permits, compliance agreements, and regulatory requirements followed in conducting operations at Hanford Site. Statutes include AEA, CERCLA, RCRA and the State of Washington Hazardous Waste Management Act. Volume I Section 6.3 discusses the TPA. Volume I Section 6.4 discusses the Dangerous Waste Management permit. Volume I Section 6.19 provides a summary of existing and potential permits (including state approved permits where state decision-making will be necessary) required to construct and operate treatment, storage, and disposal facilities related to the HSW EIS alternatives. Volume I Section 6 has been updated and revised in response to comments in the final HSW EIS.